WOMEN IN SCIENCE & ENGINEERING
28TH ANNUAL CONFERENCE
SATURDAY, FEBRUARY 2, 2019
8:30 AM - 3:30 PM
University of Washington - Seattle | Husky Union Building

Register Online: engr.uw.edu/wiseconf
or contact uwwise@uw.edu
Student registration fee: $25
Connect:
facebook.com/UWWISE
enr.uw.edu/WISE

28TH ANNUAL WISE CONFERENCE
FEBRUARY 2, 2019

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Greetings! On behalf of the College of Engineering at the University of Washington, I am very happy to welcome you to the 2019 Women in Science & Engineering Conference.

Diversity is a core value of the UW College of Engineering. As it says on our website, “Engineering is a creative field that benefits from diverse experiences and perspectives. We must cultivate engineers from different backgrounds who bring different approaches to identifying and solving society’s most pressing challenges.” Gender diversity is a critical component of engineering diversity.

We’re very proud that the UW College of Engineering continues to lead the nation in our percentage of female faculty in the College; 24 percent of our faculty are women which is the highest in the top 37 engineering schools in the country. This benefits you because research shows that having a female professor in engineering leads to greater success for female students in engineering.

This is my last year as Dean of the UW College of Engineering and it’s been my goal to support gender diversity. Since my arrival, the percentage of bachelor’s degrees awarded to women has increased from 23.3% in 2013-14 to 28.3% in 2017-18. I am certain that my successor will continue to make gender diversity a priority. I am particularly encouraged that our first Direct-to-College class is 33% women.

Enjoy the WiSE Conference!

Michael B. Bragg
Frank & Julie Jungers Dean of Engineering
Welcome to the 28\textsuperscript{th} annual WiSE Conference!

The University of Washington Office of Minority Affairs & Diversity (OMA&D) is pleased to be a partner for this event.

As the vice president for OMA&D and the university diversity officer for the UW tri-campuses, I am tremendously optimistic about opportunities – such as this conference – that advance women in STEM disciplines. I am especially excited about the work being done in the College of Engineering. It is wonderful to bring together women from all backgrounds who aspire to be our next generation of engineers, scientists and technology experts.

There are several outstanding diversity and equity initiatives underway at the UW and I am thrilled to help move this work forward with our campus community. We are truly committed to inclusive excellence and establishing diversity as an educational and societal benefit. In order to create a culture of excellence in STEM, or any fields for that matter, we must have this commitment. That means cultivating opportunities to empower all of you.

We are honored to have you in attendance today, and we hope the resources, knowledge and networking opportunities you receive will continue to energize your academic and professional pursuits.

Sincerely,

Rickey Hall
Vice President for Minority Affairs & Diversity
University Diversity Officer
NUJOUD MERANCY – BIOGRAPHY
Exploration Mission Analysis Lead
Exploration Integration & Science Division

Education:
B.S. Aeronautical and Astronautical Engineering, University of Washington
M.S. Systems Engineering, University of Houston – Clear Lake

Ms. Merancy is a systems engineer with extensive background in human spaceflight and spacecraft at NASA Johnson Space Center. She is currently the Exploration Mission Analysis Lead responsible for the mission design, integration, and performance for human exploration beyond low Earth orbit with the Orion Vehicle, Space Launch System, and Exploration Ground Systems teams. She is responsible for ensuring the mission design, trajectory, and objectives can be successfully met by the vehicle and supporting elements during exploration operations. She has previously lead the team developing the Orion integrated mission execution, vehicle performance analysis, and exploration mission design. Her work experience includes systems integration, test and verification, vehicle performance analysis, guidance, navigation, & control, requirements engineering, and real-time operations spanning the International Space Station Program from 2002 to 2008; the MPCV-Orion Program from 2009 until 2018, and now the Exploration Systems Division.
## GENERAL EVENT SCHEDULE

### Conference Location: Husky Union Building (HUB)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>8:15</td>
<td>Check-in / Registration</td>
<td>2nd Floor – “The Mural Room”</td>
</tr>
<tr>
<td>8:30</td>
<td>Pre-Conference Session + Continental Breakfast Networking with WiSE</td>
<td>North Ballroom, 211A</td>
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<tr>
<td>9:30</td>
<td>Welcome and Conference Opening</td>
<td>North Ballroom, 211A</td>
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<tr>
<td>9:55</td>
<td>Workshop Session 1</td>
<td>HUB Meeting Rooms</td>
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<tr>
<td>11:25</td>
<td>Workshop Session 2</td>
<td>HUB Meeting Rooms</td>
</tr>
<tr>
<td>12:45</td>
<td>Lunch / Career Resource Fair</td>
<td>North Ballroom, 211A</td>
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<tr>
<td>2:15</td>
<td>Closing Program / Keynote Speaker – Nujoud Merancy, NASA</td>
<td>North Ballroom, 211A</td>
</tr>
<tr>
<td>3:30</td>
<td>2019 WiSE Conference Ends</td>
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WORKSHOP SESSIONS

Session #1

1. How to Make Your Mind Work for You
2. Better Health through Engineering and Science
3. Careers Designing our Built Environment
4. Just Say No!
5. Map your Trajectory in Aviation and Space
6. Wireless Networking at a Time of Unprecedented Change
7. Navigating Your Career: Standing Up and Out

Session #2

1. Crush Your Coding
2. Careers in Engineering
3. Degree Career: The Multiple Paths to IT & Cybersecurity
4. Sustainability and Resiliency: Meeting Opportunities and Challenges in the Power Industry
5. From Concept to Company: Entrepreneurship for Engineers and Scientists
6. Jump into Life! Use the Power of Curiosity to Discover, Explore, and Innovate
7. Pathways to Environmental STEM Careers
WORKSHOP DETAILS

Session #1

1. How to Make Your Mind Work for You

June Hairston, Ed.D. (Director of University of Washington Office of Minority Affairs, PNW LSAMP)

The material presented in today’s workshop will focus on creating a lifestyle that promotes health. You will learn tips for using your thoughts to improve your overall intellect, cognitive performance and mental and physical well-being. Use this information to create your roadmap to success on all levels!

2. Better Health through Engineering and Science

Reitha Weeks (Shoreline Community College)

Engineers and scientists are critical to improving health. Panelists from academia and industry will share their education paths and career experiences in drug development, medical device innovation, manufacturing, and diagnostics. You will leave with practical advice and renewed motivation to apply your degree to a health-related field.

3. Careers Designing our Built Environment

Amanda Gehman (Coughlin Porter Lundeen)

Come discover the many ways you can shape our world through engineering. This workshop will focus on the diverse and historic field of Civil Engineering: from buildings to roads to the environment which we live in. Our panel of industry and academic leaders will discuss their careers and education, as well as answer your questions.

4. Just Say No!

Eve Riskin (University of Washington, Associate Dean and Professor of Electrical and Computer Engineering)

Do you get too many requests on your time? Do people ever ask you to do something “because we need a woman”? Come to this workshop to learn to identify situations where you should say yes, and where you can feel good about saying “no.”
5. **Map your Trajectory in Aviation & Space**

*Raquel Cundiff (The Boeing Company)*

Are you curious about the career opportunities in aviation and space industry? From airplanes to rockets, this workshop will give you the opportunity to meet a panel of industry and academic leaders who will discuss their academic and career journey, how their organization contributes to this growing field, and provide tips and guidance on mapping out a pathway to launch your goals.

6. **Wireless Networking at a Time of Unprecedented Change**

*Sumit Roy (University of Washington, Professor of Electrical and Computer Engineering)*

The impending roll-out of next generation (5G) networks will not only mean improved services for cellular users, it will also enable significant new industry segments such as the "Internet of Things" and autonomous vehicular operation. The opportunity for spectrum sharing among a variety of different communication networks will represent another unique dimension in communication engineering, where calculating and optimizing network capacity, as well as developing new ways to enable the spectrum to handle increasing demand, will provide new challenges and opportunities for engineers. Panelists will engage students in reflecting on the implications of these challenges in preparing for industrial or research and development careers.

7. **Navigating Your Career: Standing Up and Out**

*Gail Cornelius (University of Washington Career Center @ Engineering)*

Have you asked yourself what makes me unique? How do you stand out on your resume and in person to obtain that desired internship, first career position, or even the school of your choice? Distinctiveness sets you apart! Your individual differences, how you communicate your skills, present your personal brand and project your self-confidence demonstrate your uniqueness.
Session #2

1. Crush Your Coding

*Bill Haughney (Facebook)*

Never attended a technical interview before? Want to extra-prepare for your next one? Technical interviews are one of the major hurdles of landing an awesome internship or full-time career. Come learn about the common pitfalls and tips to help you crush your next coding interview! You will hear from Facebook engineers about interviewing tips and the best way to show your strengths on a whiteboard.

2. Careers in Engineering

*Eve Riskin (University of Washington, Associate Dean and Professor of Computer and Electrical Engineering)*

Come talk about engineering careers! A panel of women who work in local engineering firms share their backgrounds and how they are using their engineering degrees in different careers.

3. Degree Career: The Multiple Paths to IT & Cybersecurity

*Elise Groves (UW Athletics Information Technology)*

Are you curious about the impact your degree will have on your career path? Our panel is composed of young professionals who have worked at organizations such as UW, Boeing, Amazon and REI. They all share different paths to their ultimate destination of IT, Cybersecurity and Computer Sciences. Hear about lessons learned in the decisions they made and what impacted their careers.

4. Sustainability and Resiliency: Meeting Opportunities and Challenges in the Power Industry

*Daniel Kirschen (University of Washington, Professor of Electrical and Computer Engineering)*

The electric power industry is going through a period of enormous changes. Driven by the need to build a sustainable, carbon-free economy, conventional power plants are rapidly being replaced by wind farms and solar generation. However, the wind does not always blow and clouds block the sun. This creates significant problems in the operation of the power grid that spur a host of new technologies, such as energy storage, demand response systems, and optimizing power delivery from new forms of energy. At the same time, increasing concerns about the resilience of the power grid to natural disasters force a rethinking of the fundamental structure of our current grid. Our panelists will discuss how they address these challenges through their jobs; experiences working in power and energy;
preparation and pathway into this field; as well as the increase and diversity of career opportunities for future STEM majors.

5. From Concept to Company: Entrepreneurship for Engineers & Scientists

Reitha Weeks (Shoreline Community College)

Are you drawn to the world of business? Have you considered starting a company or working for a start-up? Learn about UW’s amazing resources for making your business dreams come true. Hear from panelists with engineering and science backgrounds who started companies or use their degrees in industry settings.

6. Jump into Life! Use the Power of Curiosity to Discover, Explore, and Innovate

Jolene Jang (Jump into Life)

When you go left instead of right, adventure waits on every corner. Can you imagine the adventure and all the gains knowing that you can do things differently? My goal is to get you to Jump into Life and to be fully engaged. I will equip you with self-development tools to be confident and curious. Through this process, I will intrigue you with neuroscience and biohacking. With these tools, you will create more opportunities to choose from. In this discussion you will learn to flex your curiosity muscle to explore new opportunities; invite divergent opinions fostering a strong foundation; and tap into different resources to add zing to attract attention.

7. Pathways to Environmental STEM Careers

Heidi Gough (University of Washington, Professor of Environmental and Forest Sciences)

The environment impacts biodiversity, natural resources, and human health, and environmental STEM professionals play critical leadership roles at all levels. This workshop introduces multiple career paths of women working in the environmental industry. Breakout sessions will allow attendees to interact and engage on a closer basis with the presenters.